19. (Amended) A method as set forth in claim 5, wherein a desired wall thickness of the article is achieved at any given point on the surface of the mould by providing the mould with two or more treatment blocks, which are set at voltage levels substantially different from each other.

Please add new claims 21-22 as follows:

21. (New) The apparatus of claim 8, wherein the polymer-based material includes at least two components which are mixed in the processing unit.

22. (New) The apparatus of claim 8, wherein the one or more process parameters is selected from the group consisting of volume flow of the polymer-based material, viscosity of the manufacturing material or a component thereof, the electrical field, and voltage level in one or more treatment blocks of the mould (2)]

REMARKS

Reconsideration of claims 1, 3-10, 13, 15 and 17-19, and consideration of new claims 21-22 is respectfully requested. Claims 2, 11-12, 14, 16 and 20 were canceled. Claims 1, 3-10, 13, 15 and 17-19 were amended. The specification was amended to correct typos in the specification and to include language consistent with Figure 1, as requested by Examiner in Paragraph 3 of the Office Action.

Applicants respectfully request withdrawal of the rejection of claims 1-20 under 35 USC 112, second paragraph. The basis of the rejection is that the term "thin-walled" is not defined in the claim or the specification, and one of ordinary skill would not be reasonably apprised of the scope of the invention. This term was removed from the claims. Applicants believe the amendments to the claims resolve the remaining rejections under 112, second paragraph.

The rejection of claims 1-2, 4, 8 and 12 under 35 USC 103(a) as being unpatentable over WO 98/24747 (the "'747 reference") in view of Miller (US 2,551,035) is traversed with respect to the amended claims. Claims 2 and 12 were canceled.

As stated in the Office Action and in the Application, the '747 reference describes a process for making thin-walled elastomeric articles by electrostatically depositing (by spraying) one or more materials on a rigid former, i.e., mould, allowing the materials to cure, and removing the cured or formed article from the mould. The mould is stated in the reference to be an "earthed" conductive material, which was taken to mean a grounded (E = 0) conductive material.

The elastomeric material is charged with an electrostatic spray gun. However, as stated in the Office Action, there is no teaching or suggestion to perform the electrostatic spraying in an electric field. The teachings of Goodridge are similar to that described in the '747 reference.

To overcome this deficiency in the '747 reference, the Office Action combines the teachings of Miller. Miller describes a process of coating various materials, textiles, or objects with elastomers such as latex. The object or material to be coated is placed on a conveyor belt. The belt passes through an electric field created by electrodes above the belt and conductive rollers at ground beneath the belt. A spray gun is used to introduce the elastomeric material into the electric field.

The rejection in the Office Action states that it would be obvious for one of ordinary skilled in the art to combine the method of forming articles as described in the '747 reference or Goodridge with the method of forming articles as described in Miller. The argument is essentially if one reference shows one way how to make elastomeric articles and another reference shows another way, would not it be obvious to do both *at the same time* to make the same type of articles.

The rejection is improper because there is no suggestion in the art or the cited references to do both, particularly, at the same time as claimed. To argue that there exits a suggestion in the art to practice both methods simultaneously can only be based on using the Applicant's disclosure as a blueprint. Such a basis for a rejection under section 103(a) has repeatedly been held to be improper by the courts.

Applicant's claimed process requires that both steps of electrically charging elastomeric material be practiced simultaneously. The elastomeric material is sprayed with an electrostatic gun into an electric field thereby providing an electrically charged material quite different then if the two processes were carried out separately. Although it is not completely understood why such a simultaneous charging process provides optimal coverage, the claimed process does provide some unexpected benefits. One, providing an electrically charged material into an electric field provides relatively smaller particle sizes, which results in improved film forming and quality. For example, elastomeric articles with a fewer number of pinholes are produced, which is very important for condoms and surgical gloves. Second, the claimed process provides for better coverage yields, resulting in less waste in manufacturing. Lastly, the claimed process provides optimal film forming on a three-dimensional mould such as for rubber gloves.

Attached hereto is a marked-up version of the changes made to the specification and

claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application to issue.

Dated: November 8, 2002

Respectfully submitted,

By _____
Joseph Barrera
Registration No.: 44,522
CONNOLLY BOVE LODGE & HUTZ, LLP
1990 M Street, N.W., Suite 800
Washington, DC 20036-3425
(202) 331-7111
(202) 293-6229 (Fax)
Attorneys for Applicant

Version with markings to show changes made.

In the Specification:

Please amend the specification as follows:

Page 1 lines 4-9, please amend the paragraph as follows:

The present invention relates to a method for manufacturing a thin-walled article, wherein a single- or multi-component, essentially polymer-based material, such as plastics, elastomers, and/or the like, is sprayed in an [elecrial] electrical field in an electrically charged state.

Page 4 lines 4-31, please amend the paragraph as follows:

The most important advantages offered by the apparatus of the invention include technical reliability in its operation and function. Another advantage offered by the apparatus of the invention is that a mould included therein, which is removable/separable from an article to be manufactured and which is either negative and/or positive, depending on a given article to be manufactured, renders it possible to manufacture most diverse products. In a preferred embodiment of the [appratus] apparatus, it is also possible to utilize treatment blocks, included in the mould and to be set at voltage levels different from each other, the voltage levels mathematically predetermined therein effecting in the actual spraying process a totally controlled flow of material to the wall of a given target being treated/manufactured, e.g. for enabling the very above-mentioned fluctuations in material thickness. Depending on an article to be processed, it is also possible to provide the apparatus with a control unit, operating in principle e.g. according to a traditional, i.e. e.g. in a so-called electrostatic manner, such that the predetermined voltage levels in the treatment blocks of a mould are substantially constant through the entire spraying cycle. On the other hand, it is also possible to make said control unit dynamical, such that certain process parameters are changed continuously or with an on/off principle during the spraying cycle.

Page 5 line 25-38, please amend the paragraph as follows:

In a further preferred application of the method, a three-dimensional, thin-walled article is manufactured by spraying a manufacturing material in the electrical field E to an open mould 2

set at an electric potential. In yet another preferred application of the method, the surface of said mould 2 is treated with surface-tension regulating surfactants, such as a [silico-ne-, a] polyolefine-based and/or a corresponding agent, especially for facilitating the removal/separation of a finished article from the mould 2. In a further preferred application, the surface tension of a material to be sprayed is adjusted relative to the surface tension of a mould to a level that results in a uniform, thin material thickness.

Page 7 lines 31-38 through page 8 lines 1-2, please amend the paragraph as follows:

In a preferred embodiment, the apparatus comprises a mould 2, including two or more treatment blocks Li, for example, L_1, L_2, L_3, L_4, L_5 and L_6 shown in Fig. 2, whose voltage levels can be set to essentially differ from each other, and/or a control unit C for changing, during the spraying cycle II, one or more process parameters, such as the volume flow, viscosity, and/or the like of a manufacturing material or a component thereof, and/or the electrical field E, such as the voltage level in one or more treatment blocks Li of the mould 2.

In the Claims:

Please cancel claims 2, 11-12, 14, 16 and 20.

Please amend claims 1 and 3-10, 13, 15 and 17-19 to read as follows:

1. (Amended) A method for manufacturing [a thin walled] an article, [wherein a single- or multi-component, essentially] comprising: providing a polymer-based material (1)[, such as plastics, elastomers, and/or the like, is sprayed]; spraying the polymer-based material [in an elecrical field (E)] in an electrically charged state into an electric field (E) [, characterized in, that the this-walled article is manufactured in the electrical field (E) by spraying (II) an electrically charged material into the contact with]; providing a mould (2), wherein one or more positions of the mould is set at an electrical potential[, after which spraying cycle (II) the article is, at least in terms of its appearance, immediately a finished product after its demoulding/stripping]; contacting the electrically charged material to the mould to form a coating on the mould; and removing the article from the mould (2) following sufficient curing of the coating.

3. (Amended) A method as set forth in claim 1 [**characterized in**, that the] further comprising treating surface of said mould (2) [is treated] with one or more surface-tension

regulating surfactants[, such as a silicone-] selected from a group consisting of a silicon-based, a polyolefine-based [and/or] and a corresponding agent[, especially for facilitating the] to facilitate demoulding/stripping of [a finished] the article from the mould (2), [and/or] wherein the surface tension of the material (1) [to be sprayed] is adjusted relative to the surface tension of [a] the mould [to a level that results in a uniform, thin material thickness].

4. (Amended) A method as set forth in claim 1, [**characterized in**, that] wherein the article is an elastic product[, such as] selected from a piece of clothing, a glove, or a condom[, and/or the like, is manufactured by spraying (II) the manufacturing material (1) in the electrical field (E) to the open mould (2) set at an electric potential)].

5. (Amended) A method as set forth in claim 1 [**characterized in**, that] wherein the [manufacturing] material (1) is a multi-component polymer-based material comprising [heated by the action of a heating unit (01), whereafter] at least two ingredients (1a, 1b) [of the multi-component manufacturing material are] that are individually heated by a heating unit, mixed together [(02), the manufacturing material (1) is], and charged electrically [(I) and sprayed (II) by the action of a processing unit (4), such as a spray bell or the like].

6. (Amended) A method as set forth in claim 1, [characterized in, that] wherein a desired wall thickness [for] of the article [to be manufactured] is achieved at any given point on the surface of the mould by providing the mould (2) with two or more treatment blocks (Li), which [can be] are set at voltage levels substantially different from each other.

7. (Amended) A method as set forth in claim 1, [**characterized in**, that the article is manufactured by using two or more processing units (4), essentially facing each other by moving the mould (2) in the spraying situation (II), and/or by changing during] wherein the spraying [cycle (II),] the polymer-based material comprises one or more changes in process parameters [such as], the process parameters selected from the group consisting of volume flow of the polymer-based material, viscosity [and/or the like] of the [manufacturing] polymer-based material or a component thereof, [and/or] the electrical field (E), [such as] and the voltage level in one or more treatment blocks (Li) of the mould (2).

8. (Amended) An apparatus for manufacturing a thin-walled article, [said apparatus being intended for spraying a single- or multi-component, essentially polymer-based material, such as plastics, elastomers, and/or the like, in an electrical field (E) in an electrically charged state, **characterized in**, that] the apparatus [comprises a mould (2) which can be set at an electric potential and which is removable/separable from an article that is formed after spraying (II) an electrically charged flow of material to the mould (2) and that is a finished product at least in terms of its appearance] comprising:

one or more reservoirs that contain a polymer-based material that comprises one or more components;

one or more pressurizing units to adjust the pressure of the polymer-based material;

a mould

a processing unit to electrically charge the polymer-based material and form a spray of electrically charged material; and

a control unit to adjust one or more process parameters.

9. (Amended) An apparatus as set forth in claim 8, [**characterized in**, that] wherein the apparatus further comprises a heating unit (01) [for heating a manufacturing] to heat the polymer-based material (1)[, and a processing unit (4), such as a spray bell or the like, for mixing together (02) ingredients (1a, 1b) of the multi-component manufacturing material, for charging the manufacturing material (1) electrically (I), and for producing a material spray (II) therefrom].

10. (Amended) An apparatus as set forth in claim 8 [**characterized in**, that] wherein the [apparatus comprises a mould (2), including] comprises at least two treatment blocks (Li) whose voltage levels [can be set to essentially differ from each other, and/or a control unit (C) for changing, during the spraying cycle (II), one or more process parameters, such as the volume flow, viscosity, and/or the like of the manufacturing material or a component thereof, and/or the electrical field (E), such as the voltage level in one or more treatment blocks (Li) of the mould (2)] are independently adjustable.

13. (Amended) A method as set forth in claim 3, wherein the article is an elastic product[, such as] selected from a piece of clothing, a glove, or a condom[, and/or the like, is manufactured by

spraying the manufacturing material in the electrical field to the open mould set at an electric potential].

15. (Amended) A method as set forth in claim 3, wherein the [manufacturing] material is [heated by the action of a heating unit, whereafter] a multi-component polymer-based material comprising at least two ingredients [of the multi-component manufacturing material are] that are individually heated by a heating unit, mixed together, [the manufacturing material is] and charged electrically [and sprayed by the action of a processing unit, such as a spray bell or the like].

17. (Amended) A method as set forth in claim 3, wherein a desired wall thickness [for] of the article [to be manufactured] is achieved at any given point on the surface of the mould by providing the mould with two or more treatment blocks, which [can be] are set at voltage levels substantially different from each other.

18. (Amended) A method as set forth in claim 4, wherein a desired wall thickness [for] of the article [to be manufactured] is achieved at any given point on the surface of the mould by providing the mould with two or more treatment blocks, which [can be] are set at voltage levels substantially different from each other.

19. (Amended) A method as set forth in claim 5, wherein a desired wall thickness [for] of the article [to be manufactured] is achieved at any given point on the surface of the mould by providing the mould with two or more treatment blocks, which [can be] are set at voltage levels substantially different from each other.